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July 25, 2003

The Honorable Michael Powell
Chairman
Federal Communications Commission
445 Twelfth Street, SW
Washington, DC 20554

*Ex Parte*: WT Docket No. 96-86

Dear Mr. Chairman:

At its July 17, 2003, meeting at Commission Headquarters, the Public Safety National Coordination Committee (NCC) reached consensus on a number of matters and concluded the last meeting held before expiration of the Committee's charter on July 25, 2003. Those recommendations concern:

- Adoption of a 700 MHz wideband data standard.
- A requirement that 700 MHz wideband data equipment, with certain exceptions, be capable of operation on the wideband interoperability channels using the wideband data standard recommended by the NCC.
- A standard channel nomenclature table for all interoperability channels.
- A requirement that all radios which are equipped with displays and are capable of operating on any of the interoperability channels, must use the standard channel nomenclature, above, in their displays; and must have, at a minimum, the capability of displaying eight alphanumeric characters.
- Changing the name of the current "State Interoperability Executive Committees" (SIECs) to "Statewide Interoperability Executive Committees," thereby to more accurately reflect their role in the administration of interoperability channels.
- Updating the Rules concerning the ANSI/TIA/EIA standard incorporated by reference in Section 90.548 of the Rules to include the revised document, ANSI/TIA/EIA 102.BAAA-A
- Modifying a previous NCC recommendation concerning Section 90.553 (e) of the Rules (encryption) to reflect the date of the most recent encryption standards document.
- Requiring that the Regional Planning Committees use the Computer Assisted Pre-Coordination Resource And Database System (CAPRAD) in their planning process.
- A streamlined processing proposal for Commission approval of amendments to Regional Plans.
- Use of an updated Regional Planning Guide by Regional Planning Committees.
- Recognition of the role of the National Public Safety Telecommunications Council (NPSTC) in carrying forward the work of the NCC.

*Wideband Data Standard*

The NCC has reached consensus on the appropriate standard for 700 MHz wideband data channels. It developed its recommendation in conjunction with the Telecommunications Industries Association (TIA), an American National Standards Institute (ANSI) accredited standards developer.[1] As explained below, the suite of standards, TIA-902, is complete except for publication of one document, *TA-902.BAAB Wideband Air Interface Text Messaging Application (TMA), Public Safety Wideband Standards Project Digital Technical Standards.* TIA anticipates publication of that document in August, 2003.

The recommended wideband data interoperability standard is known as Scalable Adaptive Modulation (SAM) and, except for the TMA document referenced above, consists of the following documents:

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|---|---|
| TIA-902.BAAC | Wideband Air Interface Media Access Control/Radio Link Adaptation (MAC/RLA) Layer Specification Public Safety Wideband Standards Project Digital Radio Technical Standards, September, 2002. |
| TIA-902.BAAD | Wideband Air Interface Scalable Adaptive Modulation (SAM) Radio Channel Coding (CHC) Specification Public Safety Wideband Standards Project Digital Radio Technical Standards, September, 2002. |
| TIA-902.BAAE | Wideband Air Interface Logical Link Control (LLC) Specification Public Safety Wideband Standards Project Digital Radio Technical Standards, September, 2002. |
| TIA-902.BAEB | Wideband Air Interface Packet Data Specification (PDS) Public Safety Wideband Standards Project Digital Radio Technical Standards, May 2003. |
| TIA-902.BAAF | Wideband Air Interface Mobility Management (MM) Layer Specification Public Safety Wideband Standards Project Digital Radio Technical Standards, May 2003. |
| TIA-902.BAAB | Wideband Air Interface Scalable Adaptive Modulation (SAM) Physical Layer Specification Public Safety Wideband Standards Project Digital Radio Technical Standards, February, 2002. |

TIA has made several presentations to the NCC in the course of the standard's development; and the standard has been thoroughly reviewed by the NCC's Technology Subcommittee. The TIA presentations to the NCC also included a discussion of the following draft document, TIA-902.AAAB, that has not yet been published by TIA:

| | |
|---|---|
| TIA-902.AAAB | Wideband Air Interface Text Messaging Application (TMA) Public Safety Wideband Standards Project Digital Radio Technical Standards |

[1] The NCC was required to develop its recommendations in conjunction with an ANSI-accredited standards developer. *See* The Development of Operational, Technical and Spectrum Requirements For Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010; Establishment of Rules and Requirements For Priority Access Service, *First Report and Order and Third Notice of Proposed Rulemaking*, 14 FCC Rcd 142, 205 (1998). TIA is such a standards developer and has extensive experience with communications technology.

Please note that TIA-902.AAAB is a wideband data channel application for text messaging; one of several such applications the NCC anticipates will be used on the wideband data channels. As such, TIA-902.AAAB, which does not involve the physical layer of the SAM technology, is not essential to the standard's definition. Accordingly, the NCC recommends that the Commission adopt the TIA-902 wideband data standard – less the Text Messaging Application document – and defer a decision on whether this non-essential document should be incorporated into the Rules at such time as TIA may complete it. At present, TIA is unable to estimate when this may occur.

*SAM Capability on all 700 MHz Wideband Data Channels.*

Currently, the Rules specify that operations on the wideband interoperability channels must employ the wideband data standard specified by the Commission. Operations on other wideband data channels may employ other operating modes and the equipment used on such other channels is not required to have the capability of operating on the interoperability channels using the specified wideband data standard. The wideband data channels differ from the narrowband voice/data channels in this regard, because narrowband equipment, with minor exceptions, must be capable of operating on the narrowband interoperability channels using the ANSI/TIA/EIA 102 (Project 25) narrowband voice/data standard currently incorporated by reference in Section 90.548 of the Rules. Thus, for example, a narrowband voice/data radio using a TDMA protocol on the non-interoperability channels must also be capable of operating on the interoperability channels using the ANSI/TIA/EIA 102 (Project 25) protocol.

The decision not to require all wideband data radios to have interoperability channel capability, using the wideband data standard, was reached at a time when the particulars of the eventual wideband data standard were not known. Accordingly, the Commission could not judge the implications – technical and otherwise – of requiring such capability. Now that the TIA-902 (SAM) standard has been recommended, it may be appropriate to revisit that determination.

At the NCC meeting on July 17, 2003, manufacturers' representatives and other NCC members present, reached a qualified consensus that most wideband data equipment should be capable of operating on the interoperability channels using the TIA-902 (SAM) standard. One manufacturer – M/A Com – noted that providing such capability was technically feasible but would increase the cost of the product; however, M/A Com interposed no objection to the recommendation. Another manufacturer, Dataradio, disagreed with the requirement for all wideband data radios to operate on the interoperability channels using the TIA-902 (SAM) standard. With the understanding that the Dataradio dissent would be noted in its recommendations to the Commission, the Steering Committee reached a consensus that wideband data equipment should be capable of operating on the wideband data interoperability channels using the TIA-902 (SAM) standard with one exception. The Steering Committee decided that there would be little if any benefit in imposing such a requirement on single-purpose equipment, such as a video camera with an integral wideband data modem. Accordingly, the NCC recommends that such special-purpose equipment be exempt from the interoperability channel requirement if the modem is integral – *i.e.* a non-detachable component in a common enclosure or case – to the special-purpose device.

In sum, the NCC recommends that the Commission adopt a rule that in substance states:

> All 700 MHz wideband data radios not integral to single-purpose equipment shall be capable of operating on all 50 kHz wideband data interoperability channels using the TIA-902 wideband data interoperability standard incorporated by reference in Section 90.XXX of these Rules. As used herein, the term "integral to single-purpose equipment," shall mean that the single-purpose device and its data modem shall be contained in the same case or enclosure; and that the data modem shall be exclusively

dedicated to said device. Devices not incorporating the TIA-902 wideband data interoperability standard are prohibited from operating on the wideband data interoperability channels.

*Standard Channel Nomenclature*

The NCC respectfully renews its earlier recommendation that the Commission's Rules contain mandatory channel nomenclature for all interoperability channels on all public safety bands. The NCC views such standard nomenclature as essential to the interoperability process, such that all responders to an incident will know the appropriate channel to which to tune their radios and will know – from the channel designator – the band and primary use of the channel specified. Absent such standard nomenclature, a Babel-like confusion could result if, for example, a given jurisdiction were to designate 458.2125 MHz as a calling channel and associate it with "Channel 5" on its radios; and another jurisdiction were to designate the same frequency as a tactical channel and assign it to "Channel 9" on its radios. With adoption of a standard channel nomenclature in the Rules, such confusion – and the attendant potential for delayed response to an incident – would be avoided. Thus, in the standard table, 458.2125 MHz is designated 4CAL27. The first digit, "4" denotes the band in use, *i.e.* the 450 MHz band. The alphabetic characters "CAL" denote that the channel is to be used as a calling channel. The last two digits "27" denote that 458.2125 MHz is the twenty-seventh of the eighty-nine interoperability channels.[2]

*Standard Channel Display*

The NCC recommends that the Commission adopt a rule requiring that all radios that include a channel-selection display must conform such a display to the above-referenced standard channel nomenclature table and that the display be capable of displaying eight alphanumeric characters. The rationale underlying this recommendation is the same as that expressed in support of adoption of the standard table: radio users must be provided with unambiguous information on the proper channel to select on their radios when responding to an incident, particularly when the user is responding to assist another jurisdiction. At its meeting on July 17, 2003, the NCC members discussed this recommendation and heard from the equipment manufactures present that implementing the recommended display would result in little, if any, increase in the cost of such radios. For most radios, implementing the recommendation would involve only a software change. Accordingly, the NCC recommends that, five years following the effective date of an order implementing this recommendation, the channel display requirement shall apply to all current-production radios and radios submitted to the Commission for certification.

*Revision of the Term "State Interoperability Executive Committees" (SIEC)*

There is anecdotal evidence that suggests that the designation "State Interoperability Executive Committee" may connote that the states should control – as opposed to administer – all aspects of interoperability channel use and that there is no role for county and local governments in the process.[3] To dispel this impression, the NCC recommends that future citation to the term by the Commission be *Statewide* Interoperability Executive Committee, and that the Commission make clear that such a committee must be broadly representative of all users, or potential users, of the interoperability channels within the state.

[2] The referenced Channel Nomenclature Chart, including recommended footnotes, is available in the FCC's "WTB-2" public file, the repository for all NCC documents

[3] *See* Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communication Requirements Through the Year 2010, Wt Docket No. 96-86, *Sixth Notice of Proposed Rule Making*, 16 FCC Rcd 2020, 2025 (2001).

*Mandatory Statewide Interoperability Executive Committees*

Currently, SIECs are optional – there is no requirement that the states implement such committees, merely a recommendation by the Commission to do so; with the proviso that, failing establishment of an SIEC or equivalent, responsibility for administering a state's interoperability channels would default to the cognizant Regional Planning Committee.[4] The NCC believes it crucial, *inter alia* for Homeland Security purposes, that the states each have an identified central point of contact for information on a state's interoperability capability. Moreover, the NCC believes that the SIECs should administer all interoperability channels in a state, not merely those in the 700 MHz public safety band. The NCC also believes it crucial that all SIECs formulate an interoperability plan; have that plan immediately available to authorized officials in adjacent states and to authorized federal officials; and that the plan be filed with the Commission and be updated at least every three years.

Accordingly, the NCC recommends:

- That all states be required to create an SIEC, or equivalent, within a time certain.
- That SIECs be given jurisdiction over all interoperability channels.
- That states create an interoperability plan and file same with the Commission within a time certain.
- That the interoperability plan be timely updated whenever substantive changes are made to it, and, in any event, every three years.
- That state interoperability plans be accessible from an electronic data base by suitably authorized officials.[5]

*Amendment of Section 90.548 of the Rules*

The NCC recommends that Section 90.548 of the Rules be amended to specify a changed standard in the ANSI/TIA/EIA documents applicable to the narrowband voice/data channels. Currently, the document referenced in the Rules is "Project 25 FDMA Common Air Interface--New Technology Standards Project--Digital Radio Technical Standards, approved April 15, 1998, Telecommunications Industry Association, ANSI/TIA/EIA-102.BAAA-1998." TIA has noted that the standard for automatic frequency control contained in the document will, if implemented in radios, not meet the frequency stability requirements set out in Section 90.539 of the Rules. To rectify this oversight, TIA has amended the document and assigned it a new reference: "Project 25 FDMA Common Air Interface--New Technology Standards Project--Digital Radio Technical Standards, Approved, xxx[6] 203, Telecommunications Industry Association, ANSI/TIA/EIA-102.BAAA-A-2003, Project 25 Vocoder Description." The NCC submits that the need to conform the standard to the Rules represents good cause for amendment of Section 90.548 of the Rules and so recommends.

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[4] *See* Public Safety 700 MHz Band - Interoperability Spectrum Announcement of Administration Decisions, DA-02-1957, 17 FCC Rcd. 15694 (2002).

[5] The CAPRAD data base would be a suitable repository for this information. *See Mandatory Use of the CAPRAD Database,* pg. 6, *infra.*

[6] At this writing, the revised document has been balloted, but not yet approved for publication by TIA. The NCC's recommendation for incorporation of the document into the Rules is conditioned on publication approval being made without substantive change to the technical standards in the document. Publication approval is expected on August 4, 2003.

*Modification of Recommended Amendment of Section 90.553(e) of the Rules (encryption).*

Previously, the NCC recommended that Section 90.553(e) of the Rules be amended to substitute the Advanced Encryption Standard (AES) for the Digital Encryption Standard (DES) currently specified in the Rules. The recommendation was based on the fact that the DES standard has been compromised and no longer is suitable for encrypting sensitive public safety communications. Since the time of that recommendation, the appropriate AES designation has changed to reflect a document with a newer date. Accordingly, the NCC wishes to change its earlier recommendation to state that, if encryption is used on the interoperability channels, the following AES should be used: Project 25 Block Encryption Protocol, approved June 13, 2002, Telecommunications Industry Association, ANSI/TIA/EIA-102-AAAD-2002, Annex C—Advanced Encryption Standard (AES).

*Mandatory Use of the CAPRAD Database*

In the *Fourth Memorandum and Order* in the public safety proceeding,[7] the Commission declined to reconsider its prior determination not to require use of a pre-coordination data base in the regional planning process, stating: "Because the proposed pre-coordination database is not yet operational, we believe it premature, at this time, to mandate that public safety entities use such a database as a condition of licensing in the 700 MHz public safety band." Recently, on July 18, 2003, the National Public Safety Telecommunications Council (NPSTC) demonstrated to FCC staff and others what it represented was an operational version of the pre-coordination data base, which has been renamed CAPRAD. The NCC respectfully urges the Commission to reevaluate its initial determination regarding the pre-coordination data base in light of the CAPRAD demonstration; and, if appropriate, to then adopt a rule requiring its use.[8]

*A Separate Part 90 Section for Interoperability-Related Rules*

The NCC recommends that the Commission amend Section 90 of its Rules to include a new section titled "*Interoperability Channels: Administration, Use, Limitations.*" This section would consolidate existing rules governing interoperability and any new rules that the Commission may adopt in response to the NCC's previous recommendations and those contained herein. These consolidated rules would cover all public safety interoperability channels administered by the FCC, and list the interoperability channels administered by the NTIA designated for sharing with local and state agencies. The July 17, 2003, Interoperability Subcommittee report provides suggested text for this proposed new section, and notes which other sections of Part 90 should be deleted or modified if the proposed new section were implemented.[9] This recommendation is made based on accounts by NCC members and others that the interoperability rules, as currently codified, make it difficult to readily reach a grasp of all of the interoperability provisions, many of which are contained in disparate rule sections.

*Commission Processing of Proposed Regional Plans*

The NCC recommends that the Commission consider streamlining the Regional Plan approval process thereby to avoid temporal and other burdens on the Regional Planning Committees and on Commission resources. Specifically, the NCC suggests that a streamlined processing standard should be adopted for minor amendments to Regional Plans, or, preferably,

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[7] The Development Of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Agency Communication Requirements Through the Year 2010, WT Docket No. 96-86, *Fourth Memorandum Opinion and Order*, 17 FCC Rcd. 4736, 4737 (2002).

[8] The public would have "read only" access to CAPRAD; other privileges on the system would be password protected.

[9] The referenced Interoperability Subcommittee Report is available in the FCC's "WTB-2" public file, the repository for all NCC documents.

that the Commission determine that minor amendments may be made without prior Commission approval.

The NCC submits that amendments to a Regional Plan should be regarded as minor, if they only involve changes to frequency allotments and meet the conditions below.

- Amendments would be minor only if they did not affect adjacent regions because:
    - The proposed channel change or addition involves a facility that would be more than 70 miles from the adjacent Region(s) border; or,
    - The co-channel or adjacent channel interference contour of the changed or added channel does not intersect the border of the adjacent region; or,
    - The adjacent region affected by the proposed channel change or addition has concurred in writing.

Modifications to approved Plans that involve changes in the way the frequencies are allocated, allotted and coordinated[10] should be considered major modifications that require written concurrence of adjoining regions and prior Commission approval. In the case of such major amendments:

- If adjacent regions have concurred with a proposed Regional Plan amendment, the Commission should promptly place the proposed modification on Public Notice for the minimum practicable time, *e.g.* thirty days. The Notice should state that reply comments may be submitted only if comments have been timely filed. The reply comment cycle should be brief, *e.g.* fifteen days.
- The Public Notice should state that, if no comments are received, the plan will be deemed approved at the end of the thirty day period unless the Commission shall have determined that the plan is defective, incomplete or otherwise unacceptable.

The Commission should require that modifications to Regional Plans that involve only changes in Regional Planning Committee members must be served on adjacent regions; but that Commission approval of such membership changes will not be required.

*Regional Planning Guide Book*

As the Commission is aware, the NCC, in cooperation with NPSTC and others, has produced a Regional Planning Guide Book which currently is in use by many of the Regional Planning Committees. The Guide Book has been provided to Commission staff and should be a "living document" revised, as necessary, as different and additional needs of the Regional Planning Committees are identified from time to time. The NCC is pleased to advise the Commission that the Guide Book will be maintained and enhanced after conclusion of the NCC's term. NPSTC has formed a 700 MHz working group charged with the responsibility of revising the Guide Book when necessary and will maintain a current version thereof on the NPSTC web site, http\\www.npstc.org. Many of the NCC recommendations contained in this letter are discussed in greater detail in the Guide Book. The background of these recommendations is contained in the NCC Interoperability, Technology and Implementation Subcommittee reports on file in the Commission public file WTB-2. The NCC believes that those documents will be a valuable background resource for the Commission when it addresses the instant recommendations in the context of a rule making proceeding.

[10] "Coordinated" here is used in its general sense and is not intended to refer to the role performed by the Commission's Certified Frequency Coordinators.

*Future Recommendations Concerning the 700 MHz and Other Interoperability Channels*

At the request of the NCC, NPTSC undertook an effort to establish an "IP database" to catalog the IP addresses of users on interoperability data channels, particularly promoting the efficient use of these channels in a major event where outside agencies would roam into the scene. NPSTC reported to the NCC that this effort has been expanded to now include a conceptual study, with potential testbeds, for a National Authentication and Privileges Database. This project has been funded by the National Institute of Justice AGILE Program.

Although the NCC has completed the tasks assigned to it in its Charter, the term of which expires on July 25, 2003, the public safety communications community's role in making recommendations concerning interoperable communications known to the Commission will be a continuing one. The NCC's successor in that regard – although not in the formal context of a Federal Advisory Committee – will be NPSTC. The NCC's Steering Committee – on which NPSTC has been so ably represented by its President, Marilyn Ward, since the inception of the NCC – is grateful to NPSTC for agreeing to continue the NCC's work going forward. In that connection, NPTSC will be continuing its efforts, as initially requested by the NCC, to establish an "Internet Protocol Database" (IP Database) to catalog the IP addresses of interoperability wideband data channel users. Giving authorized public safety officials access to this database will promote efficient use of these channels, particularly in connection with major events where outside agencies roam onto a scene. NPSTC reported to the NCC Steering Committee that a conceptual study is underway and that potential testbeds are being identified for a National Authentication and Privileges Database. The IP Database project has been funded by the National Institute of Justice AGILE Program.

The NCC members, and I as Chair, are confident that, in endorsing NPSTC to carry forward the NCC's work, we are leaving the future responsibility for advising the Commission on interoperability matters in good and competent hands.

I wish to express the appreciation of the NCC Steering Committee and Subcommittees for the excellent assistance that TIA has rendered to the NCC in the development of the various standards the NCC has recommended to the Commission. In particular, I want to acknowledge John Oblak, chairman of the TIA TR-8 Engineering Committee for Private Radio. John has given unstintingly of his time to briefing the NCC, at almost every meeting, on TIA's progress in development of the various standards the NCC has considered.

I also wish to commend the NCC Steering Committee and the Chairs of the NCC Subcommittees, listed below, for their devotion to the tasks assigned to them by the Commission. Their accomplishments are all the more remarkable because these individuals – all of whom have other full-time responsibilities – volunteered their considerable technical and administrative skills, without compensation, to further interoperable public safety communications capability. Their efforts will be reflected for decades to come in the form of enhanced safety of life and property and in the security of our homeland.

Finally, I wish to thank you and your fellow Commissioners for your responsiveness to the NCC's recommendations and for the honor conferred by the Commission's appointing me as NCC Chair.

Respectfully submitted,

/s/ Kathleen M. H. Wallman

Kathleen M. H. Wallman
Chair, National Coordination Committee

Steering Committee

Hon. Roy Barnes (National Governors Association)
Hon. Francis G. Slay (U.S. Conference of Mayors)
Ms. Marilyn Ward (National Public Safety Telecommunications Council)
Mr. Steven Proctor (Public Safety Wireless Network)
Mr. Harlin R. McEwen (International Association of Chiefs of Police)
Mr. Douglas Aiken (International Association of Fire Chiefs)
Mr. Rick Murphy (Federal Law Enforcement Wireless Users Group)
Mr. Timothy Loewenstein (National Association of Counties)
Dr. Ernest Hofmeister (M/A COM Wireless Systems)
Mr. Charles Jackson (Motorola)
Mr. Michael Brasher (Local and State Government Advisory Committee)

Subcommittees

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Kyle Sinclair, 1st Vice-Chair
Steve Souder, 2nd Vice-Chair

Technology Subcommittee: Glen Nash, Chair
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Implementation Subcommittee: Edward Dempsey, Chair
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